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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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AUG 29 2003

**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY**

In the Matter of:)
)
Petition for Rulemaking)
of the U.S. Department of Transportation)
for the Allocation of a Three-Digit)
Telephone Number To Access)
Excavation Damage Prevention)
(One Call) Services Nationwide)

CC Docket No. 92-105

**PETITION FOR RULEMAKING OF THE
UNITED STATES DEPARTMENT OF TRANSPORTATION**

SAMUEL G. BONASSO
Acting Administrator
Research and Special
Programs Administration

KIRK VAN TINE
General Counsel

STACEY GERARD
Associate Administrator
for Pipeline Safety

ROSALIND A. KNAPP
Deputy General Counsel

ELAINE E. JOOST
Chief Counsel

PAUL SAMUEL SMITH
Senior Trial Attorney

August 28, 2003

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TABLE OF CONTENTS

	<u>Page</u>
I. SUMMARY	1
II. INTRODUCTION	2
III. BACKGROUND	5
A. <u>Excavation Damage</u>	5
B. <u>One Call Systems</u>	8
C. <u>Current Access to One Call Services is Inadequate</u>	9
D. <u>The One-Call System Faces Increasing Burdens</u>	11
E. <u>Alternatives to an Abbreviated One Call Number Have Been Unsuccessful</u>	11
F. <u>An Easily Recognizable Code is Crucial for Increasing Access to One Call Systems</u>	12
IV. THE PUBLIC BENEFITS OF THREE-DIGIT ONE-CALL ACCESS	13
A. <u>Public Safety and Security Benefits</u>	13
B. <u>Economic Benefits</u>	14
V. CONCLUSION	14

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I. SUMMARY

Vital infrastructure facilities criss-cross the nation below the ground. Underground pipelines, telephone cables, fiber optic and electrical conduits, water and sewage systems, etc. provide critical services to virtually every individual and community. These facilities have historically been at risk to damage from excavation projects, resulting in the interruption of power and communications, harm to the environment, and loss of life. So-called "One Call" systems that can provide advance notice of excavation work to underground facility operators have reduced the incidence and consequences of excavation damage, but such accidents continue to an unacceptable extent.

Part of the reason for this lies in the fact that One Call systems, which cover different geographic areas, generally have their own telephone number. This

circumstance inhibits a more widespread familiarity with and use of their fundamental services, to the detriment of the safety, security, and health of the public.

Congress has therefore directed the United States Department of Transportation (“DOT” or “Department”) and the Federal Communications Commission (“FCC” or “Commission”) to establish a three-digit toll-free telephone number to access One Call services nationwide. Pursuant to its responsibility under federal law, therefore, the Department petitions the FCC for the assignment of a three-digit toll-free telephone number to access One Call services throughout the country. DOT further urges the Commission to assign a mnemonic dialing code that clearly relates to the problem identified by Congress. Such a code would lead to the broadest possible use of One Call services and thus secure the maximum public benefits. The Department specifically requests that the dialing code of 344 be assigned for this purpose, which numbers correspond to the word “DIG” on telephone keypads and dials.¹

II. INTRODUCTION

America’s vast infrastructure that provides energy, telecommunications, and other vital services to communities across the country is, to a large extent, located underground. Damage to underground facilities can disable important communications networks and cause interruptions in our energy supply, resulting in outages to vital facilities and services. Thus, such damage imposes substantial costs across the economy well beyond the direct cost of repair to the affected facilities. Moreover, damage to

¹/ If the abbreviated code 344 is not feasible, a substitute mnemonic three-digit number is requested of the Commission in the alternative.

certain of these facilities -- such as underground pipelines, which transport large volumes of hazardous liquids and highly pressurized gas -- poses a serious threat to public safety and the environment. Protecting this essential infrastructure has long been a shared responsibility of the Department and other government agencies, underground facility operators, and excavators.

Within DOT, the Research and Special Programs Administration ("RSPA") regulates the safety of some two million miles of pipelines.² These include gas transmission pipelines that transport natural gas across the country from producing areas to consuming areas, oil pipelines that transport crude oil from wellhead to refinery and refined product from refinery to consuming region, and pipelines that transport highly volatile liquids and other hazardous materials. Ensuring the integrity of this network of pipelines is critical to maintaining an uninterrupted energy supply throughout the United States. More importantly, pipeline failures are a threat to the public safety and security, strain local emergency response services, and can threaten the environment.

Despite decades of federal support for One-Call systems,³ excavation damage remains the leading cause of failure for natural gas, petroleum, and other hazardous liquid pipelines.⁴ The Commission is no doubt aware that excavation damage is also a major cause of service interruptions for such vital underground utilities as local and long-

^{2/} 49 U.S.C. §§ 60101 *et seq.*, 49 C.F.R. Parts 190-199. The Department's familiarity with pipelines in particular has led it to emphasize this portion of underground infrastructure in the instant petition, but Congress' concern and the reasons for it extend to all such facilities.

^{3/} See, e.g., 49 U.S.C. § 60114, which directs DOT to prescribe standards for One Call systems.

^{4/} During the period from January 1, 1986 through December 31, 2001, for example, approximately forty percent of pipeline failures were caused by excavation damage. Source: RSPA Office of Pipeline Safety ("OPS") Incident Reports, which are available online at: www.ops.dot.gov/stats.htm

distance telecommunications, cable television, and fiber optics. Electricity cables and water and sewer lines are subject to the same risk of harm and potentially catastrophic consequences

Of particular note is the fact that excavation damage is the leading cause of so-called "high-consequence" pipeline failures -- those involving injuries and fatalities -- because the volumes of the commodity released in this fashion tend to be higher than those released through other causes of pipeline failures, such as corrosion or manufacturing defects. Excavation damage also causes the release of more product from oil pipelines into the environment than any other type of failure.

Damage to underground facilities caused by excavation activities is often preventable. When operators of underground facilities are informed in advance of a proposed excavation site, they mark the location of their facilities before any digging begins, and excavators are able to conduct their work in safety. The crucial first step in this process, of course, is advance notification by the excavator to underground facilities operators. This notification primarily occurs via telephone communication to One Call service centers, which link excavators with the range of underground facilities operators within the relevant region.⁵

Each One Call system now has its own telephone number. This circumstance unfortunately has been shown to hinder more widespread common knowledge and use of One Call services. Congress has recently decided to remove this obstacle to enhanced public safety and security.

^{5/} There are seventy One Call Centers in the U S Their areas of geographic coverage and their telephone numbers are available online at <http://www.digsafely.com/contactlist.htm>

The Pipeline Safety Improvement Act of 2002 strengthens the federal government's support for One Call services by, *inter alia*, requiring government agencies and their contractors to use these services and by extending criminal penalties for failing to report excavation damage. Pub. L. No. 107-355, 116 Stat. 2985 (2002). The most pertinent provision of this statute for present purposes is section 17, which reads as follows:

Within 1 year after the date of enactment of this Act, the Secretary of Transportation shall, in conjunction with the Federal Communications Commission, facility operators, excavators, and one-call notification system operators, provide for the establishment of a 3-digit nationwide toll-free telephone number system to be used by State one-call notification systems.

Id.

It is pursuant to this charge that the Department has filed the instant petition. As this petition demonstrates, the assignment of an appropriate three-digit One Call number not only satisfies the requirements of the above statutory provision, but is vital to improving public safety by reducing pipeline failures associated with excavation damage, and strengthening homeland security by protecting critical energy and telecommunications infrastructure nationwide from disruptions.

III. BACKGROUND

A. Excavation Damage

Pursuant to the Transportation Equity Act for the 21st Century ("TEA-21"),⁶ RSPA's Office of Pipeline Safety in 1999 sponsored the *Common Ground Study of One Call Systems and Damage Prevention Best Practices* ("Common Ground Study") to

⁶/ P L 105-178 § 6105 (June 9, 1998)

gather information on underground damage to pipelines and assess current prevention practices in the industry.⁷ The Common Ground Study helped to underscore the persistence of excavation damage and suggested ways to address this problem.

RSPA's pipeline safety regulations require that pipeline operators report failures and certain other safety-related events affecting their pipelines.⁸ Gas transmission, gas distribution, and hazardous liquid pipeline operators must file distinct incident report forms that include the time, place, and circumstances surrounding each incident -- including the probable cause. Each of the report forms includes the category "Outside Force Damage" as a cause.⁹

Table 1 below compiles data relating to the period from 1986 to 2001.¹⁰

⁷/ The Common Ground Study is available at www.ops.dot.gov/damage.htm

⁸/ 49 C F R. Parts 191 and 195, Subpart B

⁹/ The category "Outside Force Damage" in the reporting forms includes more than excavation damage; it also extends to damage caused by natural forces such as earthquakes and flooding. The available data, while limited, shows that approximately 70% of the Outside Force Damage incidents were categorized as "Damage by Others," which is typically excavation damage.

¹⁰/ The data is compiled from OPS incident reports; see note 4 *supra*. To enhance understanding of the risks and consequences of spills, OPS modified its reporting forms in 2002 for gas transmission pipelines and hazardous liquid pipelines to better capture the causes of incidents, and, for liquid lines, to set a lower volumetric reporting threshold. The reporting form for gas distribution incidents is undergoing similar revisions.

Table 1

Pipeline Safety Incidents Attributable to Outside Force Damage, 1986-2001								
	Gas Distribution		Gas Transmission		Hazardous Liquids		Combined	
	#	%	#	%	#	%	#	%
All Incidents	1,266	59%	511	40%	781	26%	2,558	40%
Incidents with a Fatality	90	51%	15	59%	10	42%	115	50%
Incidents with an Injury	336	45%	45	35%	31	33%	412	42%
Property Damage (million \$)	138.5	55%	139.3	46%	209.4	27%	487.2	37%
%: Share of total attributable to Outside Force Damage, NR: Not reported								
Source: RSPA Office of Pipeline Safety accident reports (RSPA Form 7100.1, RSPA Form 7100.2, RSPA Form 7000-1)								

It shows that during this time Outside Force Damage accounted for approximately 40% of all reportable pipeline incidents, the largest share in any cause category. Outside Force Damage incidents also accounted for the largest share of the incidents involving a fatality (50%) or an injury (42%). Outside Force Damage accounted for 37% of the property damage costs, again the largest share. Over the same period, the largest share of reportable oil spill volumes lost (35%) was due to Outside Force Damage. Regulatory experience, as well as a number of studies examining the Outside Force Damage category in greater detail, have confirmed the primary role of excavation damage in the overall pattern of pipeline failures.¹¹

It is important to note that the data presented here largely involve pipeline ruptures that occurred at the time of impact by excavation equipment. DOT's regulatory enforcement experience, however, also makes clear the significance of "latent" damage,

^{11/} See e.g., Allegro Energy Consulting and HSB Pipelines, "The Safety Performance of Natural Gas Transmission and Gathering Systems," GTI-03/0031, prepared for Gas Technology Institute (2003), Kiefner & Associates, Inc., "Analysis of DOT Reportable Incidents for Hazardous Liquid Pipelines, 1986 through 1996, API Publication 1158, prepared for the U.S. Department of Transportation and the API Pipeline Segment (1999)

which is caused by a blow to the pipeline that does not result in an immediate failure. The damaged site -- the dent, gouge, scratched coating -- can become an accident waiting to happen. The site may begin to corrode, or the weakened pipe wall or distressed seam may eventually rupture. Both the available data and real world experience demonstrate that the most effective way to reduce high-consequence pipeline failures and improve pipeline safety is by preventing damage to pipelines in the first instance.

B. One Call Systems

A One Call system is a communication system established by operators of underground facilities or state governments or both in order to provide a means for excavators and the general public to notify facility operators in advance of their intent to engage in excavation activities. As noted, there are seventy One Call systems in the U.S. They operate in the urban, suburban, and rural regions of all fifty states and the District of Columbia. Excavators range from relatively large commercial firms that specialize in digging or construction to farmers periodically using a backhoe to homeowners that have occasion to dig only rarely.

The One Call operations center primarily receives telephoned notices of intent to excavate, and transmits the information to the underground facility operators that participate in the One Call system in that area. Operators that have underground facilities in the area of the proposed excavation site then arrange for the timely identification and marking of the locations of their facilities, and often inspect the site during the excavation to oversee the integrity of those facilities.

C Current Access to One Call Services is Inadequate

The effectiveness of the One Call system depends heavily on the excavator making the initial call to the One Call center. Since the facilities in question are concealed underground, however, excavators may be unaware of their presence and may not know or remember how to check for their existence. Even for knowledgeable excavators, current telephone access to One Call notification services can be troublesome.

Despite the significant geographic reach of some of these systems, there are literally dozens of ten-digit numbers to call applicable to the various One Call centers. The multiplicity of ten-digit One Call numbers at the state level has created a significant barrier to increased usage. See note 5, *supra*. For example, during a recent one-year period in Colorado there were 11,092 excavation damage incidents reported, yet in 38% of these incidents, the excavators did not utilize available One Call services to provide advance notification to operators of underground facilities. As a result, in these instances the line locations were never marked or otherwise protected.

Relatively unsophisticated excavators such as smaller residential contractors, farmers, and residential homeowners account for a significant portion of excavation damage incidents. In the case of gas distribution pipelines -- which literally reach into people's homes -- the lack of awareness is striking. In October, 2001, a random survey of 600 adult property owners found that over 40% were unaware of the call center

number, and that only one-third of those who had engaged in excavation activities called beforehand.¹²

The Pipeline Performance Tracking System (“PPTS”) is a voluntary reporting system undertaken by the oil pipeline industry beginning in 1999. It provides additional insights concerning the pattern of excavation damage incidents. The PPTS data highlight key information about the range of actors involved in excavation activities as discussed in a recent article in the trade publication, *Oil & Gas Journal*:

It has been commonly assumed that “third party” damage is shorthand for “excavation” damage, a hit from a backhoe or other equipment used during excavation activities. A surprising note from the first three years of PPTS data is that farming activities and other underground facilities operators (including other pipeline operators) are more likely to cause third party damage than conventional excavators.¹³

Table 2 below, using PPTS data, illustrates the wide range of actors and activities that resulted in excavation damage to oil pipelines during a recent three-year period.

Table 2

Oil Pipeline Spills Caused by Third Party Damage Reported to the Pipeline Performance Tracking System, 1999-2001 (Spills occurring on onshore pipe; includes only failures due to damage at the time)			
		#	Volume
Total # of Oil Spills and Volume Released (1000's of bbls)		90	90 4
% From	Farming	24%	21%
	Other	17%	24%
	Road Construction	16%	6%
	Other Underground Operator	13%	9%
	Other Pipeline Operator	10%	13%

^{12/} CGA Quarterly Member Newsletter, June 2003, Issue 6 at 1. The survey was conducted by Edge Survey on behalf of the Dig Safely subcommittee of the Common Ground Alliance See www.commongroundalliance.com

^{13/} Matheson and Trench, “Data from US Pipeline Performance Tracking Begin to Yield Clearer Picture,” *Oil & Gas Journal*, Vol 100.46, November 11, 2002

Homeowner	7%	21%
Operator/Contractor	7%	3%
Res /Comm Development	4%	2%
Onshore Waterway Activity	1%	1%
Rail Construction	1%	1%

Source Matheson and Trench, "Data from US Pipeline Performance Tracking Begin to Yield Clearer Picture," *Oil & Gas Journal*, Volume 100.46, November 11, 2002

D. The One Call System Faces Increasing Burdens

Recent infrastructure growth and other increased burdens have compounded the inadequacy of the current state-by-state One Call system. The potential for excavation damage to the pipeline network and other underground facilities rises with each new building, suburb, and increasing population density in general. Pipeline rights-of-way that were originally established in rural locales are sometimes now within heavily populated areas. New pipeline construction to serve growing energy markets, particularly for natural gas, will add to the pipeline segments at risk for the foreseeable future. The construction of other underground facilities such as fiber optics, television cable, and water pipes is also increasing. Finally, newer development practices routinely put telecommunications and electricity services underground, not aboveground as was historically the case.

E. Alternatives to an Abbreviated Dialing Codes Have Been Unsuccessful

Alternatives to the instant petition have failed to produce the desired goal of fostering the widespread use of One Call services. The barriers to widespread usage of One Call systems have been recognized by regulators and industry for years. In 1999, a non-profit organization known as the Common Ground Alliance ("CGA") was formed by RSPA and industry stakeholders to identify measures to protect the underground

infrastructure during excavation activity and to promote the use of industry best practices.¹⁴ The CGA undertook several initiatives designed to increase public awareness about the importance of reducing excavation damage. In an attempt to improve One Call access, the CGA established a ten-digit nationwide telephone number (888-258-0808) for obtaining referrals for One Call centers. However, despite an extensive public awareness campaign, its effectiveness has been inadequate because it only refers callers to another ten-digit telephone number for a One Call center in their geographic area, if one is present, and does not itself provide notification and underground facility locating services.

F. An Easily Recognizable Code is Crucial for Increasing Access to One Call Systems

The Department agrees with Congress that the lack of a single abbreviated dialing code is a serious impediment to more widespread use of One Call services. In similar circumstances the Commission has acknowledged that the more lengthy or more varied the telephone number, the greater the likelihood of ignorance and disuse. *In the Matter of the Use of N11 Codes and Other Abbreviated Dialing Arrangements*, First Report and Order and Further Notice of Proposed Rulemaking, CC Docket No. 92-105, FCC 97-51 (Released February 19, 1997) (“*N11 Order*”). Once established, an abbreviated code will itself promote the more widespread and routine use of One Call services nationwide by eliminating the cumbersome process of identifying which ten-digit telephone numbers to use. Moreover, the assignment of “DIG” as the code will further serve to educate and

¹⁴/ Detailed information about the Common Ground Alliance is available at www.commongroundalliance.com

remind the excavating public, regardless of their sophistication or the frequency of their digging, of the need to use One Call services.¹⁵

IV. THE PUBLIC BENEFITS OF THREE-DIGIT ONE CALL ACCESS

Three-digit dialing codes are a scarce resource, allocated only for those uses that serve the needs of a broad public. *NII Order, supra*. In this case, such a code would offer added protection to the pipelines, local and long-distance telecommunications lines, fiber-optic cables, electrical power cables, and water and sewer systems that comprise the nation's underground infrastructure. The prospective beneficiaries of the petition thus encompass virtually the entire population of the United States.

A. Public Safety and Security Benefits

The establishment of a single, abbreviated One Call number easily remembered by the public would very likely lead to increased use of One Call services, with a consequent direct reduction in the number of deaths and bodily injuries associated with excavation-related underground facility failures. For example, the National Transportation Safety Board concluded that prior damage to a pipeline segment was a prominent contributing cause of the tragic pipeline accident in Bellingham, Washington in 1999 that claimed the lives of three young people.¹⁶ Avoiding interruptions in our energy supply and telecommunications networks also enhances homeland security.

¹⁵/ Finally, in addition to the public benefits of facilitating increased usage, because excavators who fail to use an available One-Call system can be subject to federal criminal penalties, obstacles to compliance should be minimized to the extent practicable 49 U.S.C. § 60123(d).

¹⁶ / NTSB Report No. PAR-02/02, Adopted Oct. 8, 2002. A summary of the report is available on line at: <http://www.nts.gov/publictn/2002/PAR0202.htm>

Damage can cause crippling outages to law enforcement agencies, hospitals, air traffic control operations, emergency response providers, and military bases.

B. Economic Benefits

Increased One Call usage would lower economic losses associated with pipeline damage repair costs, lost commodity, and property damage. For example, during the period of January 1, 1986 through December 31, 2001, gas pipeline failures associated with excavation damage resulted in roughly \$277,800,000 in property damage alone. During the same period, hazardous liquid pipeline failures associated with excavation damage resulted in approximately \$209,400,000 in property damage. Table 1, *supra*.¹⁷ Moreover, outages to vital services often have an economic ripple effect. The loss of telephone service, heat, or electricity can bring commerce to a near standstill in the affected areas.¹⁸ Construction delays and traffic interruptions also result when digging cannot commence on schedule and safely.

V. CONCLUSION

Excavation damage to our core underground infrastructure continues to plague the public interest in safety, security, and efficiency. The primary means by which such accidents may be prevented, One Call systems, are not easily accessed by excavators.

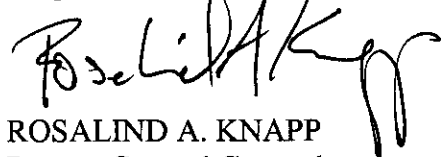
^{17/} Notably, these statistics do not account for all of the incidents that occurred during the period because certain gas and hazardous liquid pipeline incidents are exempt from the reporting requirements. Therefore the actual amount of property damage can be assumed to be higher.

^{18/} For example, a single underground cable that was severed by an excavator on July 23, 2001 in Bethesda, Maryland knocked out service to large sections of Bethesda and Chevy Chase for nearly a week *Md Phone Outage Drags On After 4 Days*, Washington Post, July 28, 2001.

Their current ten-digit telephone numbers have not become part of the national knowledge base, as they must in order to achieve their intended purpose.

Congress has determined to remove this barrier to One Call usage by directing the establishment of a single, three-digit One Call notification service number nationwide. That number should resonate with the public so as to maximize use of One Call services. The Department accordingly petitions the Commission to assign the three-digit code of 344, or "DIG." If that number is somehow not feasible, a similarly mnemonic substitute should be adopted.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Rosalind A. Knapp', with a stylized flourish at the end.

ROSALIND A. KNAPP
Deputy General Counsel